

ABSTRACT

The application concerns a method of identifying compounds that can be used to inhibit undesired human CD4⁺ T cell immune responses by identifying compounds that block the interaction of CD4 and MHC, class II, gene products and a method of treatment which comprises administering such an identified compound. The compounds that inhibit undesired human CD4⁺ T cell immune responses can be used to treat disease such as multiple sclerosis and to prevent graft rejection and graft versus host disease. More specifically, the application concerns compounds having molecular weights between about 1400 and 400 that mimic three portions of the human CD4 lymphocyte cell surface antigen. The portions are residues 29-35, the C-C' loop of the D1 domain; residues 317-323, the C-C' loop of the D4 domain; and residues 346-353, the CDR3 or FG ridge of the D4 domain of the CD4 molecule. Specific examples of such compounds include cyclic peptides and peptidomimetic.